

[0083] WHAT IS CLAIMED IS:

1. A method for accessing data from a data storage device, comprising the steps of:
directing electromagnetic radiation onto the surface of the data storage device; and
receiving, as a multi-dimensional data stream, reflections of the electromagnetic radiation from the storage device.
2. The method of claim 1 wherein, prior to being directed onto the surface of the data storage device, the electromagnetic radiation is transformed into a hologram comprising a series of line patterns.
3. The method of claim 2, wherein the electromagnetic radiation is transformed into a hologram by way of a holographic lens element.
4. The method of claim 2, wherein the reflection of the hologram is captured by a CMOS or CCD photo diode array.
5. The method of claim 1 wherein, after being directed onto the surface of the data storage device, the reflected electromagnetic radiation is transformed into a hologram comprising a series of line patterns.
6. The method of claim 5, wherein the reflection of the hologram is captured by a detector array.
7. The method of claim 1, wherein the data stream comprises binary data.
8. The method of claim 1, wherein the data storage device comprises first and second data storage media.
9. The method of claim 8, further comprising the step of

accessing a plurality of data tracks on the first and second storage media simultaneously and in parallel.

10. The method of claim 1, wherein the storage device is a static storage device.

11. A method for generating a multi-dimensional data signal, comprising the steps of:

generating a first signal from an electromagnetic radiation source;

directing the first signal onto the surface of a data storage device; and

receiving a second, multi-dimensional signal from the data storage device.

12. The method of claim 11, wherein the data captured is binary data.

13. The method of claim 11, further comprising the step of manipulating the second signal into at least two combinations of measurable parameters selected from the group consisting of length, width, height, radius, and angle.

14. The method of claim 11, further comprising the step of measuring the second signal.

15. The method of claim 11, wherein said data storage device comprises at least one static storage medium.

16. The method of claim 15, wherein the first signal bisects the at least one static storage medium.

17. The method of claim 15, wherein the at least one static storage medium comprises first and second static storage media.

18. The method of claim 17, further comprising the step of accessing multiple data tracks on the first and second storage media simultaneously and in parallel.

19. The method of claim 17, wherein the first and second static storage media comprise first and second optical disks arranged such that at least one surface of the first optical disk is parallel to at least one surface of the second optical disk.

20. A data retrieval system, comprising:

a data storage medium;

a sensor array;

a mirror; and

a holographic lens element adapted to cooperate with said mirror so as to generate a hologram in the form of multiple data patterns that are focused upon said sensor array.

21. The data retrieval system of claim 20, wherein the holographic lens element is adapted to receive electromagnetic radiation reflected from said data storage medium and is further adapted to generate, from the reflected electromagnetic radiation, a hologram in the form of multiple data patterns that are focused upon said sensor array.

22. The data retrieval system of claim 20, further comprising a source of electromagnetic radiation.

23. The data retrieval system of claim 22, wherein said source of electromagnetic radiation is a laser source.

24. The data retrieval system of claim 22, wherein the holographic lens element is adapted to receive

electromagnetic radiation from said source and is further adapted to generate, from the electromagnetic radiation, a hologram in the form of multiple data patterns that are focused upon said data storage medium.

25. The data retrieval system of claim 20, wherein said data patterns are line patterns.

26. The data retrieval system of claim 20, wherein said data storage medium comprises a plurality of tracks, and wherein each of said data patterns corresponds to electromagnetic radiation reflected from one of said plurality of tracks.

27. The data retrieval system of claim 26, wherein said data storage medium is an optical disk.

28. The data retrieval system of claim 20, further comprising:

- a source of electromagnetic radiation; and

- a beam splitter adapted to receive electromagnetic radiation from said source and to split the electromagnetic radiation into a plurality of multiple beams;

wherein said data storage medium comprises a plurality of optical disks, and wherein each of said plurality of beams impinges upon one of said plurality of optical disks.

29. A device, comprising:

- a source of an electromagnetic radiation signal;

- a reflective element adapted to direct the electromagnetic radiation signal onto the surface of a data storage device;

- a second element adapted to capture binary data in multiple dimensions from the data storage device, medium, or media;

- transporting means for transporting data in multiple

dimensions;

manipulating means for manipulating said electromagnetic radiation into any given minimum two combinations of measurable dimensions relating to length, width, height, radius, or angle; and

measuring means for measuring said electro-magnetic energy.

30. The device of claim 29, wherein the data storage device comprises a static storage medium.

31. A device for generating a multidimensional signal, comprising:

a source of electromagnetic radiation;

capturing means for capturing binary data in multiple dimensions from a static storage device, medium, or media;

transporting means for transporting data in multiple dimensions;

manipulating means for manipulating said electromagnetic radiation into any given minimum two combinations of measurable dimensions relating to length, width, height, radius, or angle; and

measuring means for measuring said electro-magnetic energy.

32. The device of claim 31, wherein said signal can be converted to a static state.

33. The device of claim 31, wherein said signal can be converted to a dynamic state.

34. The device of claim 31, wherein said signal can be measured dimensionally by a function of binary data.

35. The device of claim 31, wherein said signal can be measured dimensionally by some function of binary bit(s) in

relation to time.

36. The device of claim 31, wherein said signal can comprise and be measured by some function of binary bit(s) in relation to space.

37. The device of claim 31, wherein said signal can comprise and be measured by any given number of bits of information in relation to combinations of space and time.

38. The device of claim 31, wherein said signal can be manipulated or processed mathematically with linear or non-linear, parallel, or multidimensional algorithms.